UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/506,215	02/17/2000	Shimada Naohiro	P/126-182	7056

7590 08/05/2004	EXAMINER
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ART UNIT	PAPER NUMBER
2142	

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DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.
09/506,215</td><td>Applicant(s)
NAOHIRO, SHIMADA</td></tr>
<tr><td>Examiner
Prieto B</td><td>Art Unit
2142</td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,15 and 16* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 15 and 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This communication is in response to amendment/request for continued examination (RCE) under 37 CFR 1.114 of the above identified application filed 2/06/04 and subsequent amendment filed 3/28/04. Claims 1-2 and 15-16 remain pending and are hereby presented for examination.

2.   Previous Office action mailed 3/31/04, due to cross-mailing error did not considered amendment filed 3/28/04. Hence, hereby, previous office action is vacated, and statutory time for response is re-set accordingly.

3.   Amendment filed 3/28/04, has been fully considered, amendments to the claims obviate the first paragraph of 35 U.S.C. 112 rejection.

4.   Applicant's remarks regarding the above-mentioned 112 rejection have been fully considered. However, based on a careful review of applicant's disclosure, it is not clear from the background description, the description of the embodiments and the figure that the layers discussed are those in connection to the prior art, the physical, data link and network layers as defined in the OSI model, because there is no discussion, description or reference of the OSI model in applicant disclosure.

Claim Rejections - 35 USC § 103

5.   Quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action may be found in previous office action.

6.   Claims 1-2 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudo U.S. Patent No. 6,256,326 in view of Ellis et. al. (Ellis) in view of 6,256,292 U.S. Patent No. 6,256,292.

Regarding claim 1, Kudo teaches claimed invention substantially as claimed, teaching a node(s) (4 and 6 of Fig. 9, col 6/lines 6-21) comprising layers (Fig. 6) including:

a first layer (layers HPT through PPI of Fig. 6), a second layer (layers MSA of Fig. 6) and a third layer (layers MSP to SPI of Figure 6) where the second layer is between the first and the third;

a packet is processed ("mapped") in said first layer (Fig. 6, step b1, col 6/lines 60-col 7/line 3 and col 19/lines 42-50);

said first layer determines whether the packet is to be transmitted to another identified node via an established data link (col 6/lines 39-45, col 8/lines 17-22, transmission to the next node or adjacent node col 22/lines 17-26) and

transmitting data (packet) to said third layer through said second layer when determine that the packet is to be forwarded to another node (Fig. 12, col 8/lines 4-15, 33-42); although prior art teaches determining whether the packet is to be hopped to a next node, it does not explicitly teach, where it determines is the packet is to be dropped at said node;

Ellis teaches a system method related to transmission apparatuses and method in a communication network, wherein that line terminal equipment (LTE) (e.g. add-drop multiplexer ADM) operate in the physical layer (first layer, path and/or line sublayer) (Fig. 1) configured with means for accessing accesses signals that need to be dropped or inserted at that site, the rest of the traffic continuing straight through (col 7/lines 39-48, Fig. 2B, element 350).

It would have been obvious to one ordinary skilled in the art at the time the invention was made to include the teaches of Ellis for judging at the first layer whether the packet is to be dropped to said node or hopped to a next node, one ordinary skilled in the art would be motivated to utilize the logical (configurable software modules) layers associated with SONET model including transmission path, multiplex section and regeneration sections as suggest by Kudo, allowing a straight path through between two consecutive line terminal equipment and taught by Ellis.

Regarding claim 2, the first layer transmits (Kudo: Fig. 12, marked as A, col 8/lines 4-15, 33-42, Ellis: col 7/lines 21-25,64-65).

Regarding claims 15-16, these claims are the method claims associated with claims 1-2, same rationale of rejection is applicable.

Response to arguments

7.   Applicant argues layers one through three are those readily recognized by one ordinary skilled in the art as being those defined in the OSI model. According to applicant, it is readily understood from invention's Figs. 4-5 and 2 that the layers herein illustrated are the layers of the OSI model.

In response to the above-mentioned argument, it is noted that disclosure has been fully reviewed, however, it is not found in the specification where is the OSI model mentioned. Figs. 4-5 of the invention illustrated a 1st layer above or higher than a 2nd layer. The standard OSI model has been fully reviewed, however, it is not found where it defines a 1st layer higher than a 2nd layer and 3erd layer. The OSI model standard does not seem to include a 1st layer defined as comprising termination of SOH, LOH and POH as illustrated on Fig. 5 of applicant's invention.

The claimed layers have been interpreted in light of the specification (see MPEP 2111). In this case, for example, the first layer according to applicant's disclosure pertains to SDH path lines crossing multiple points also called nodes (see pages 10-11), where the layers relate routing operations (see page 2). Upper one of the SDH paths (20) marked as "first layer" on figure 4, does not carry any packet to be dropped at the cut-through node, SDH path (20) is not terminated and packets on the SDH path are not made to pass through to a next node (cut-through 1). The termination of the SDH path for example, Virtual Tributary (VT) 1.5, marked "second layer" on Figure 4 but also the operation in a "second layer 23" or a "third layer 24" on Figure 5 become unnecessary (see page 12). The section overhead (SOH), line overhead (LOH) and path overhead (POH) as depicted by a reference numeral 25 are marked as first layer on Figure 5.

Therefore, the terms layer, i.e. first, second and third related to SDH levels or routing functions, as defined by applicant's specification, broadly speaking.

8.   Applicant argues on page 6, that there are deficiencies of the rejection based on the Kudo and Ellis references because the element of the Kudo reference are applied in inconsistent

manner, where descriptions relating to structure showed in the Figure 9 is used to support statements relating to structure shown in Figure 6.

In response to the above-mentioned argument, the Kudo reference reviewed. FIG. 9 is a block diagram showing a configuration of a linear network to which a SDH transmission mode is applied, this linear network 100 of FIG. 9 is configured by connecting terminal apparatus 4, 6 through an optical fiber 100a and repeaters (such as optical amplifier) 5a, 5b are mounted on the optical fiber 100a for the connection of the terminal apparatus 4, 6. Specifically, Fig 9 shows the data transmission from the terminal apparatus 4 to the terminal apparatus 6, where a reverse transmission, is also available, the data transmitted is classified in a predetermined unit (logical layer) shown on Figure 6 in accordance with the respective processing. Specifically, in the terminal apparatus 4, 6, the data processed in the terminal interfaces 40, 60 (of Fig. 9) can be expressed as a layer called a PPI (PDH Physical Interface) shown on this Figure 9 and on Figure 6, which is a presiochronous Digital Hierarchy. Further in the terminal apparatus 4, 6, the data processed in the cross connects 41, 61 (of Fig. 9) can be expressed as layers called an MST (Multiplex Section Termination), an HPT (Higher Order Path Termination), and an LPT (Lower Order Path Termination) shown in Figure 6. Furthermore, the multiplexing and the demultiplexing which are carried out in the optical interface 62 of the linear network 100 shown in FIG. 9 are expressed as layers called STM and MSA, respectively shown on Fig. 6. The Kudo reference relates the structure of the components of the terminal apparatus 4/6 to the logical layers illustrated below on Fig. 9, which are in detail illustrated on Figure 6 correlated to their logical layering layout structure and functions. Argument that relating to structure showed in the Figure 9 is used to support statements relating to structure shown in Figure 6 is inconsistent, is not persuasive.

9.   Applicant argues previous arguments are sustained and incorporated by reference. Applicant argued prior art does not teach whether the packet is to be dropped at said node or to be hopped to a next node.

In response to the above-mentioned argument, it is noted that previous arguments in substance have been addressed, however for applicant's convenience will be re-state hereby. Applicant argues prior art does not teach whether the packet is to be dropped at said node or to

be hopped to a next node. Kudo teaches a terminal interface configured to perform mapping functions 9col 6/lines-col 7/line 3) and an optical interface configured to perform mapping functions (col 19/lines 42-50), logical layers (Fig. 6) illustrate mapping and determination functions are performed at layer HPT through PPI.

10. Applicant argues prior art does not teach claim limitation as recited, a first layer that judges that the packet is to be dropped at the node

In response to the above-mentioned argument, Kudo teaches a first layer (HPT- PPI of Fig. 6) configured determines whether the packet is to be transmitted to another identified node via established data link (col 6/lines 39-45, col 8/lines 17-22, transmission to the next node or adjacent node col 22/lines 17-26) and transmitting data packets to said third layer through said second layer when determine that the packet is to be forwarded to another node (Fig. 12, col 8/lines 4-15, 33-42).

11. Applicant indicated that amendment to the claim language is explicitly disclosed in the specification, specifically, in the Figures 4-5 and 2, wherein the first layer is the lowest layer in the layering, thereby the terms of the claims must be read in view of the specification.

In response to the above-mentioned argument, it is noted that disclosure has been reviewed, however nowhere in the specification is the OSI model mentioned. Figs. 4-5 of the invention illustrated a 1st layer above or higher than a 2nd layer. Attention is made to Figure 2, which does not illustrate a first layer or a second for that matter. It is not found where in the OSI model is the layering illustrated in Figs. 4-5 defined, the OSI model does not seem to define a 1st layer above or higher than a 2nd layer and 3erd layer. See supplemental advisory (11/12/03) for definition of the layers as set forth by the invention's specification.

12. Applicant's arguments filed 03/28/04 have been fully considered but not rendered persuasive.

13. Applicant is reminded that in accordance with 37 CFR 1.530 (e) Status of claims and support for claim changes. Whenever there is an amendment to the claims pursuant to paragraph

(d) of this section, there MUST also be supplied, on pages separate from the pages containing the changes, the status (i.e., pending or canceled), as of the date of the amendment, of all patent claims and of all added claims, and an explanation of the support in the disclosure of the patent for the changes to the claims made by the amendment paper (see MPEP 2234).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (703) 305-0750. The Examiner can normally be reached on Monday-Friday from 6:00 to 3:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Jack B. Harvey can be reached on (703) 305-9705. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Any response to this action should be mailed to:

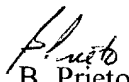> Commissioner of Patents and Trademarks
> Washington, D.C. 20231

or faxed to the Central Fax Office:

> (703) 872-9306, for Official communications and entry;

Or Telephone:

> (703) 306-5631 for TC 2100 Customer Service Office.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Fourth Floor (Receptionist), further ensuring that a receipt is provided stamped "TC 2100".

B. Prieto
TC 2100
Patent Examiner